2.3 BASE REALIGNMENT AND CLOSURE OPEN AOIs

2.3.1 FGGM 10 (OU-8) – INACTIVE LANDFILL 1

Regulatory Driver: CERCLA

Environmental Investigations:

PA	1989
SI	1991
RI	1998
DD Safety Precautions	1998
ROD	1999
LTMP	2001, 2012
LTM	2004-2015
5-Year Reviews	2005, 2011, 2016
Explanation of Significant Difference (ESD)	2014
Land Use Control Remedial Design (LUCRD)	2015

Contaminants of Potential Concern: Arsenic, iron, manganese, and MEC

Media of Concern: Groundwater

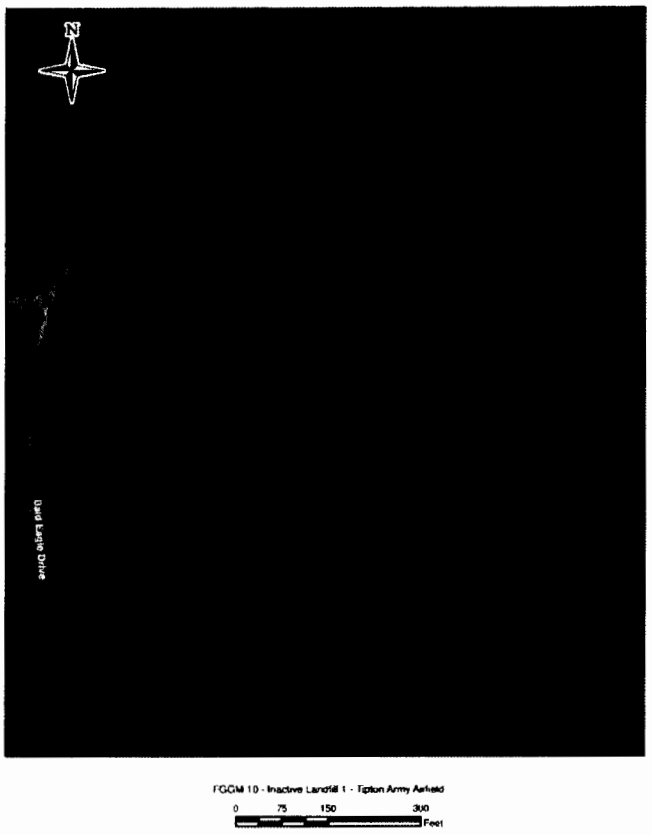
Site Location: Grid E5, east of State Route 198 and south of State Route 32, in the western portion of the Tipton Airfield Parcel (TAP), between Bald Eagle Drive and the Little Patuxent River.

Site Description: IAL1 was used as an unlined sanitary landfill from approximately 1950 to 1964. No information has been found on the types of material disposed of at this location. A small concrete blockhouse, formerly used as a communications building, is present on the northwest corner of IAL1.

Previous Studies: Over the course of previous investigations at this site, an earthen MEC safety cap was installed over IAL1.

Current Use: Inactive

Current Status: LUCs that prohibit conducting any surface or subsurface excavations, digging, well drilling, or other disturbance of soil, or areas below paved surfaces have been established and are enforced. Annual LTGM has been implemented. The Final TAP ESD was submitted in May 2014. The ESD modifies the June 1999 ROD to address 1) the need for sweeps for ordnance, 2) appropriate disposal of ordnance if discovered, and 3) land use control requirements. The Army submitted a TAP LUCRD in June 2015 that details how to implement, maintain, and enforce the LUCs at IAL1 and incorporate them into the CERCLA process. A 5-Year Review is due September 2016.



Cleanup/Exit Strategy: Continue the corrective measures O&M (LUCs with LTGM on an annual basis) per the results of the September 2011 TAP 5- Year Final Review. Inspection and monitoring of the LUCs are documented in accordance with the LUCRD. Finalize 5-Year Review Report and LTGM Report in FY16.

2.3.2 FGGM 20 (OU-15) – ORDNANCE DEMOLITION AREA

Regulatory Driver: CERCLA

Environmental Investigations:

SI	1994
Sampling Visits	1996, 1999, 2000, 2002, 2004
RI/FS	2002
FFS	2002
LTMP	2003, 2012
LTM	2004-2015
PP	2011
ROD	2011
LUCRD	2013
Interim Remedial Action Completion Report (IRACR)	2013
5-Year Review	September 2016

Contaminants of Potential Concern: Cyclotrimethylene trinitramine (RDX), trinitrotoluene (TNT), amino-DNTs, chlorinated VOCs, cadmium, and MEC.

Media of Concern: Groundwater

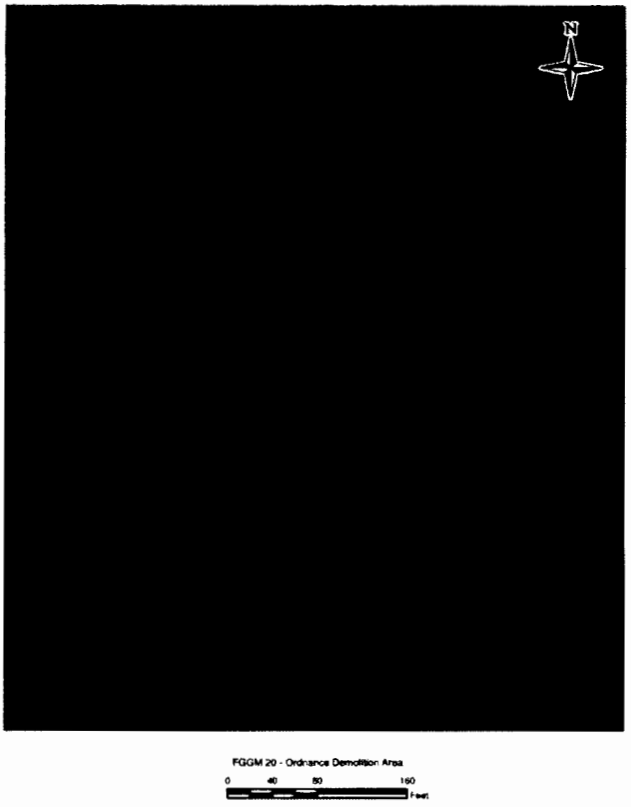
Site Location: Grid F10, in the southern part of the BRAC parcel, in an otherwise undeveloped wooded area south of Wildlife Loop Road.

Site Description: The Ordnance Demolition Area (ODA) covers 2.5 acres and is bounded by an outer berm, which is approximately 8 feet high and constructed of rubble and earthen material. The area outside the berm is heavily forested and contains wetlands to the east and south. An inner berm, constructed similarly to the outer berm, bounds the demolition pit. The demolition pit area inside the inner berm is approximately 40 feet by 80 feet and predominantly filled with sand.

Previous Studies: Over the course of previous investigations at this site, soil and groundwater samples were collected for the RI, FFS, and LTGM.

Current Use: Inactive

Current Status: The Decision Document of 2005 selected MNA as a remedial alternative in conjunction with Institutional Controls that limit the use of groundwater until Remedial Action Objectives (RAOs) have been met. The Army rescinded the 2005 Decision Document and submitted a Final ROD in September 2011 that established MNA as the groundwater remedial alternative. The Army submitted a Final LUCRD in June 2013 to better implement, maintain, and enforce LUCs at the ODA and incorporate them into the CERCLA process. The Army submitted a Final IRACR in July 2014.



Cleanup/Exit Strategy: Ten wells will be sampled until compliance with RAOs has been established. Future work includes continuing the corrective measures O&M and MNA in accordance with the approved ROD. In addition, 5-year reviews will continue, and inspection and monitoring of the LUCs will be documented in accordance with the LUCRD. Finalize 5-Year Review Report FY16.

2.3.3 FGGM 31 (OU-17) – INACTIVE LANDFILLS 2 AND 3

Regulatory Driver: CERCLA

Environmental Investigations:

Enhanced PA	1989
Superfund Record of Decision	1998
RI	1998
ROD	1999
LTMP	2001, 2012
MEC Sweeps	2001, 2006, 2011
5-Year Reviews	2005, 2011
ESD	2014
LTM	2004-2015
Maintenance and Repairs	2014
LUCRD	2015
5-Year Review	2016

Contaminants of Potential Concern: Benzene, 1,1,2,2-Tetrachloroethane, CCl_4, cis-1,2-dichloroethene, vinyl chloride, arsenic, iron, manganese, and MEC

Media of Concern: Groundwater

Site Location: Grids E5 and F5, in the TAP, in the eastern portion of the runway area.

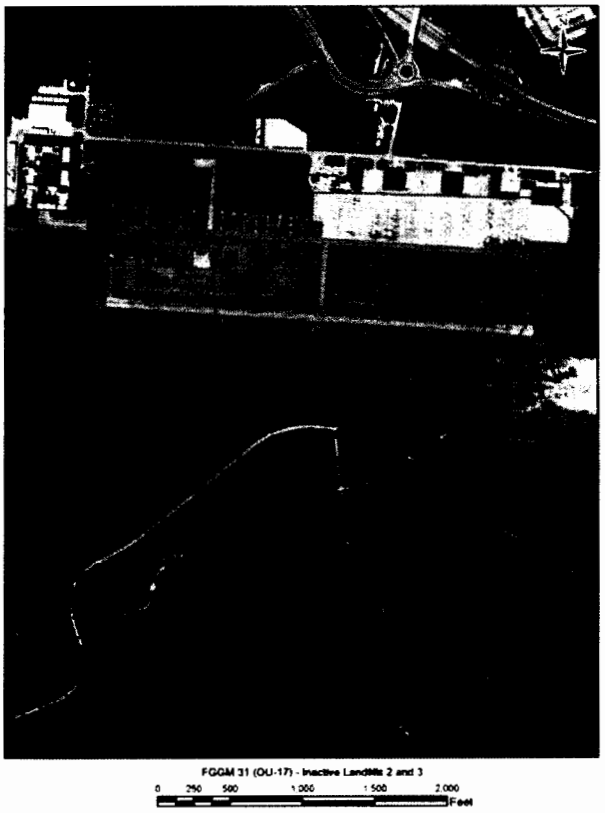
Site Description: FGGM 31 includes IAL2 and IAL3. Information about IAL2 can be found under the MMRP section (Section 2.2.2) of the SMP.

IAL3 is 78 acres and originally used as a sand borrow area. During the late 1940s and 1950s, the area was used as a sanitary and "leaf-dump" landfill. Tipton Army Airfield was constructed over the fill area in 1963. Landfill materials were removed from beneath all runway construction areas for structural reasons, but landfill materials are still present in areas adjacent to the runways.

Previous Studies: The Decision Document (U.S. Army, 1998) stated that surface sweeps will be performed at the landfill at years 3 and 7, and every 5 years thereafter, to remove any potential MEC that might migrate to the surface. Ordnance sweeps were conducted in 2001, 2006, and 2011 at IAL3.

Current Use: Airport runway and grassy areas

Current Status: The ROD requires 5-year reviews and LTGM. The Final TAP ESD was submitted in May 2014. The ESD modifies the December 1998 and June 1999 RODs for IAL3 to address 1) the needs for sweeps of ordnance; 2) appropriate disposal of ordnance if discovered; and 3) land use control requirements. The Army regraded the surface settling in the vegetated (grass) sections of the landfill and Final Report was accepted in December 2014. The Army submitted a TAP LUCRD in June 2015 to implement, maintain, and enforce the LUCs at IAL3 and incorporate them into the CERCLA process. A 5-Year Review is due September 2016.



Cleanup/Exit Strategy: Future work includes continuation of the Corrective Measure O&M, which includes LTGM, 5-year reviews, and annual maintenance inspections in accordance with the June 1999 ROD. Inspection and monitoring of the LUCs will be implemented and documented in accordance with the LUCRD. The next MEC sweep is scheduled for FY16. Finalize 5-Year Review Report in FY16.

2.3.4 FGGM 81 (OU-33) – CFD

Regulatory Driver: CERCLA

Environmental Investigations:

PA	1989
SI	1992
RI	1992 and 1998
Action Memorandum	2000-2001
PP	2000
ROD	2000
LTMP	2002, 2012
5-Year Review	2009, 2011, and September 2016
LTM	2004-2015

Contaminants of Potential Concern:

Chlorinated VOCs, metals, and MEC

Media of Concern: Groundwater and surface water

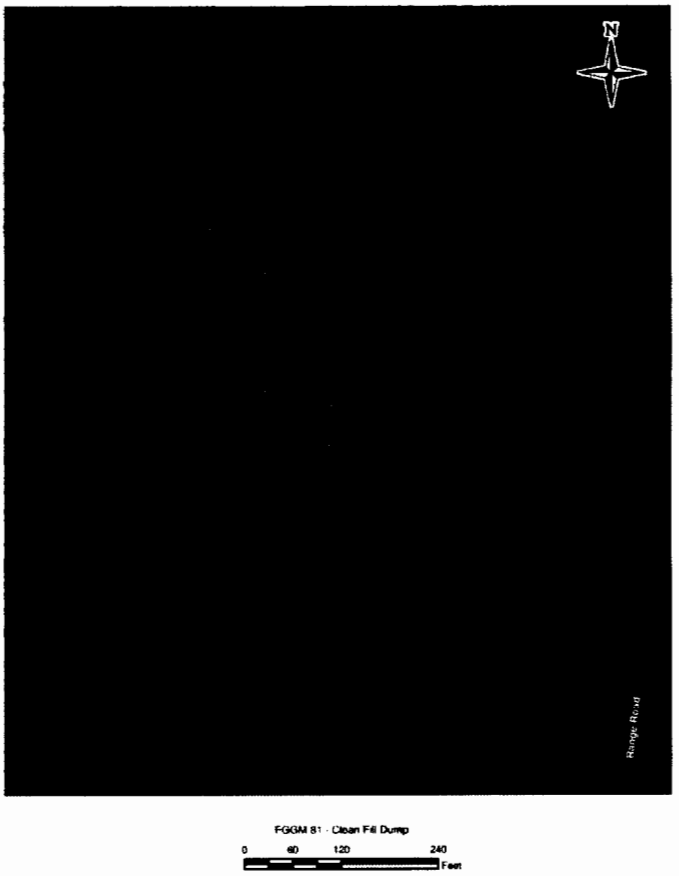
Site Location: Grids G7 and H7, in the southeastern portion of the BRAC parcel along Boundary Road. The Clean Fill Dump (CFD) covers approximately 13 acres and is partially within the boundaries of the Firing Range 9 downrange fan.

Site Description: The CFD was used from approximately 1972 until approximately 1985 for the disposal of miscellaneous debris.

Previous Studies: Previous studies have resulted in a ROD that recommended annual LTGM and 5-year reviews.

Current Use: Inactive

Current Status: The ROD (U.S. Army, 2000b) identified the selected remedial alternative for the CFD OU (U.S. Army, 2000a) as "NFA with monitoring." The Lower Patapsco aquifer is monitored on an annual basis. The ROD incorporates the 2000 *Action Memorandum: Safety Precautions to Be Taken at Clean Fill Dump*, which includes provisions for residential use restrictions, groundwater use limitations, and UXO issues (U.S. Army, 2000b). MEC LUCs for the MMRP portion



(FGGM 001-R-01) of the CFD will be addressed under the LUCRD for the High Explosive Impact and Disposal (HEI) Area (FGGM 002-R-01). A 5-Year Review is due in September 2016.

Cleanup/Exit Strategy: Continue the corrective measures O&M (LUCs with LTGM on an annual basis) per the results of the September 2011 CFD Final 5-Year Review. Finalize 5-Year Review Report in FY16.

2.3.5 FGGM 85 (OU-35) – MEC TIPTON ARMY AIRFIELD

Regulatory Driver: CERCLA

Environmental Investigations:

ROD	1999
Historical Records Review	2006
5-Year Review	2011
ESD	2014
LUCRD	October 2015
IRACR	March 2016
5-Year Review	September 2016
IAL1 and IAL3 Annual Inspection Report	May 2016
MEC Sweep LTM Report	March 2016

Contaminants of Potential Concern: MEC

Media of Concern: Soil, groundwater, and surface water

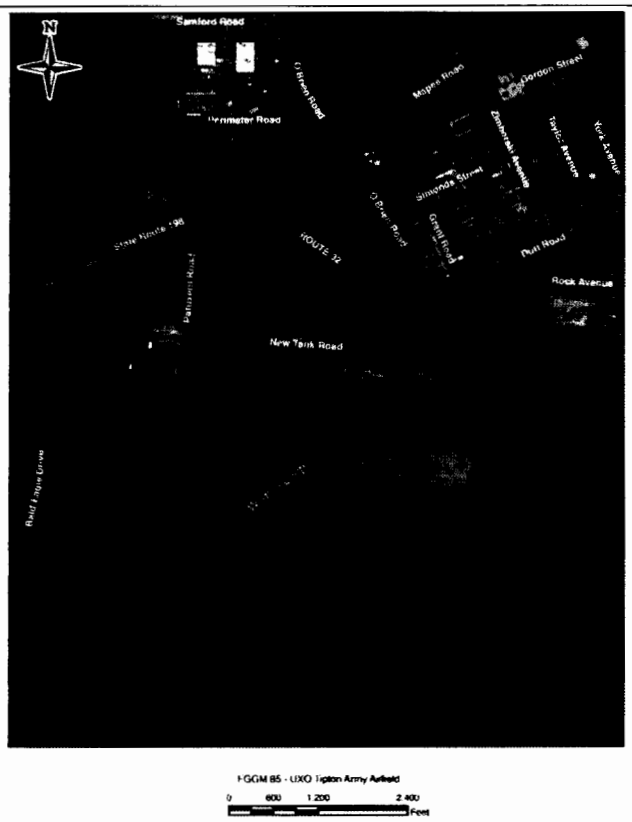
Site Location: Grid E5, east of State Route 198 and south of State Route 32.

Site Description: This AOI is composed of sites HHA, Fire Training Area (FTA), IAL1, IAL2, and IAL3. It is also bisected by the Little Patuxent River.

Previous Studies: Over the course of previous investigations at this site, an earthen MEC safety cap was installed over IAL1, a fence is installed and maintained around IAL2, and surface sweeps for MEC have been conducted in IAL3.

Current Use: Public airfield

Current Status: The soil safety cover at IAL1 and IAL3 is inspected and sweeps of a portion of the Little Patuxent River are conducted yearly. The TAP Final ESD was submitted in May 2014.In addition, 5-year reviews are conducted. The Army submitted a TAP LUCRD in June 2015 to better implement, maintain, and enforce the MEC LUCs. The 5-Year Review is in progress and a final will be issued to the regulators in September 2016.



Cleanup/Exit Strategy: MEC sweeps and inspections will continue for the foreseeable future. The river sweeps will continue to be performed annually. Finalize 5-Year Review Report in FY16.

2.3.6 FGGM 94 (OU-37) – TRAP AND SKEET RANGE 17

Regulatory Driver: CERCLA

Environmental Investigations:

Ordnance Survey	1995
Site-Wide Groundwater Study	1999
Human Health Risk Assessment/Ecological Risk Assessment (HHRA/ERA)	2004, 2014
Statement of Work for RI	2008, 2013
RI/FS	2011, 2014
PP	2014
ROD	2014
LUCRD	2016
Remedial Action Completion Report	2017

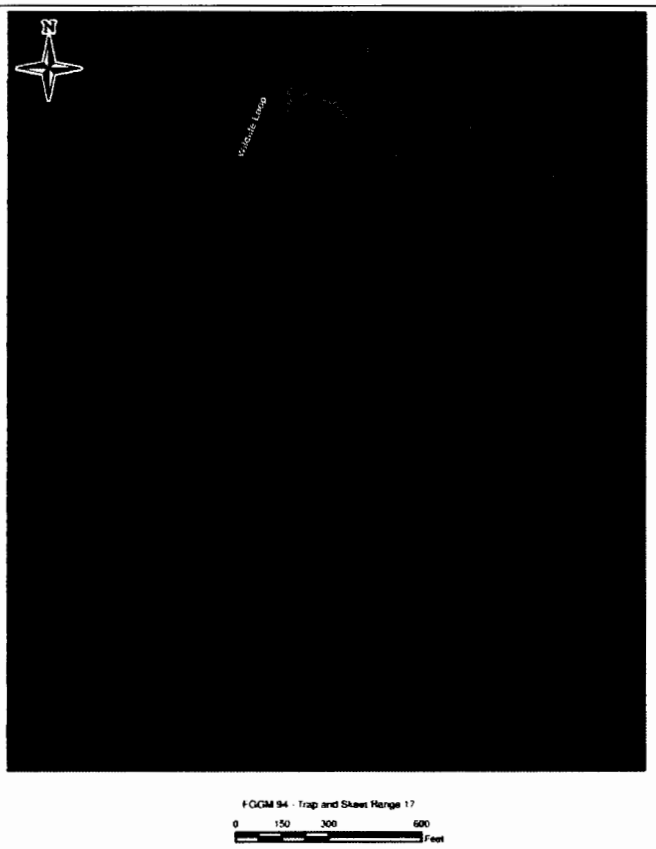
Contaminants of Potential Concern: Arsenic, lead, copper, PAHs, nitroglycerin, and MEC

Media of Concern: Soil

Site Location: Grid D7, in the central portion of the PRR-NT.

Site Description: This AOI consists of the remnants of trap and skeet ranges. The skeet range was present as early as 1965, and the trap range was present as early as 1984. Features that were present include a high house, a low house, cement walkways, and a rather heavily forested area.

Previous Studies: Over the course of previous investigations at this site, 74 X-ray fluorescence samples for lead, arsenic, an copper, and 10 lead shot samples were collected for analysis during the 2004 HHRA/ERA study; 237 samples of iron, arsenic, lead, and copper were collected for the 2014 HHRA/ERA; and 110 lead shot samples were collected for analysis for the 2011 draft RI/FS. MDE identified the need to sample for PAHs and explosives (e.g., nitroglycerin) during the regulatory review of the Draft RI/FS. The Army, in cooperation with EPA and MDE, has agreed that the site required further investigation. A Final Work Plan Addendum was submitted to the regulators in April 2013. In May 2013, the Army collected additional soil samples for PAHs and nitroglycerin from six Decision Units.



Current Use: Inactive

Current Status: A Final RI/FS was submitted in June 2014 to determine human health and ecological risk per CERCLA, the Oil and Hazardous Substances Pollution Contingency Plan, and Army procedures. The Army submitted a Final PP and ROD in September 2014. A Final LUCRD was issued to regulators in January 2016. Soil Remediation will be complete in 2016.

Cleanup/Exit Strategy: Remedial Construction is currently ongoing. Future work includes submission of 5YRs beginning FY19.

2.3.7 FGGM 001-R-01 (OU-38) – CFD MMRP

Regulatory Driver: CERCLA

Environmental Investigations:

PA	1989
SI	1992
RI	1992 and 1998
Action Memorandum	2000-2001
PP	2000
ROD	2000
LTMP	2002, 2012
5-Year Review	2011
LTM Report	2004-2015

Contaminants of Potential Concern: MEC

Media of Concern: Groundwater

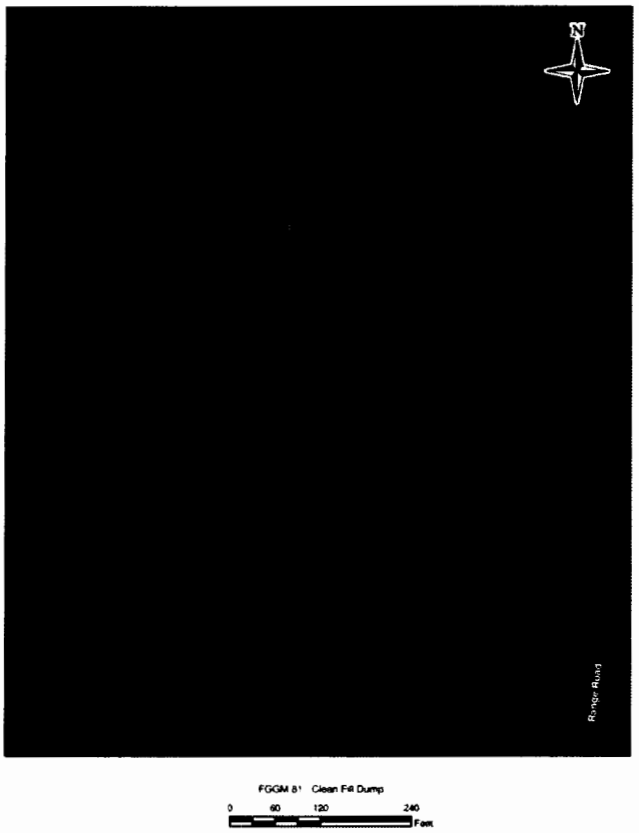
Site Location: Grids G7 and H7, in the southeastern portion of the BRAC parcel along Boundary Road. The CFD covers approximately 13 acres and is partially within the boundaries of the Firing Range 9 downrange fan.

Site Description: The CFD was used from approximately 1972 until 1985 for the disposal of miscellaneous debris.

Previous Studies: Previous studies have resulted in a ROD and LTGM with 5-year reviews.

Current Use: Inactive

Current Status: The ROD (U.S. Army, 2000b) incorporates the Action Memorandum (July 2000), which addresses the risks related to MEC at the CFD and the protection of human health and the environment. The Action Memorandum establishes MEC land use restrictions and their enforcement. MEC LUCs for the CFD MMRP will be included in the HEI Area Proposed Remedial Action Plan (PRAP).



Cleanup/Exit Strategy: The Army intends to transfer the property to DOI. After transfer, FGGM 001-R-01 will be administratively closed, and MEC-related work at the CFD will be associated with FGGM 002-R-01 – HEI Area. Finalize the HEI Area PRAP to better enforce and maintain the existing MEC LUCs at the PRR-NT parcel, which includes the CFD MMRP OU. Once the HEI Area ROD is approved, the Army will submit a LUCRD.

2.3.8 FGGM 002-R-01 (OU-39) – HIGH EXPLOSIVE IMPACT AND DISPOSAL AREA

Regulatory Driver: CERCLA

Environmental Investigations:

Ordnance Survey	1992-1993
Engineering Evaluation	2001
MEC Survey	2001
MEC LUC Action Memo	2001
PP	January 2016
ROD	September 2016
Draft Final LUCRD	February 2017

Contaminants of Potential Concern: MEC

Media of Concern: Soil

Site Location: Grids B5-H5, A6-I6, A7-H7, C8- G8, C9-G9, D10-G10; FGGM 002-R-01 consists of the approximately 8,100-acre PRR-NT, south of Fort Meade and the Tipton Army Airfield parcel.

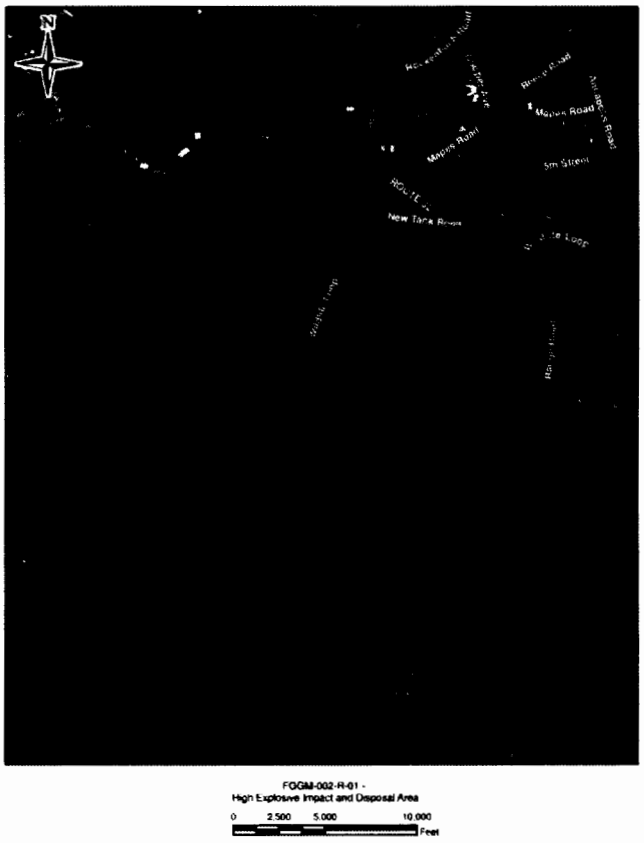
Site Description: This AOI consists of the PRR- NT, which is composed of two areas, one totaling 7,600 acres and the other about 500 acres. Both areas were transferred to the DOI in the early 1990s. Numerous ordnance and explosive (OE) training and MEC items were found in this tract during site investigations. The potential munitions suspected on the PRR-NT are representative of troop training and fighting using live and practice items designed to simulate a service item in weight and ballistic properties.

These items may be inert or have a small quantity of explosive filler.

Previous Studies: Over the course of previous investigations at this site, surveys were conducted to locate, identify, and remove MEC located on the surface and within a depth of 6 inches below ground surface. A NTCRA of MEC to a depth of 6 inches was completed for 24 areas in the PRR-NT identified by the U.S. Fish and Wildlife Service (USFWS) as high traffic areas.

Current Use: Wildlife refuge

Current Status: A 2001 Action Memorandum selected LUCs with surface and subsurface clearance to depth in selected areas.



Cleanup/Exit Strategy: Continue measures outlined by the LUCs, including educating workers and recreational users about potential residual OE hazards that may be associated with the property and whom to notify if any OE is encountered. A Final PRAP will be submitted in FY16 and a ROD will be submitted in FY16 for the HEI Area to better enforce and maintain the existing MEC LUCs at the PRR-NT parcel, which includes the CFD MEC LUCs. Once the HEI Area ROD is approved, the Army will submit a LUCRD in FY17. Inspection, monitoring, and documentation procedures for the MEC LUCs will be incorporated into the CERCLA process for the HEI Area.